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Zasmidium oleae sp. nov. from China

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Abstract—A new species, *Zasmidium oleae* on *Olea tsoongii* is described, illustrated and discussed. The type specimen is deposited in HMAS.

Key words—cercosporoid fungi, *Mycosphaerellaceae,* plant pathogen

Introduction

The genus *Zasmidium*, established by Fries (1849), was considered a monotypic genus until recently. Based on molecular sequence analyses, this genus is now used for cercosporoid fungi in the *Mycosphaerellaceae* morphologically characterized by verruculose superficial hyphae in vivo (rarely lacking); smooth to verruculose conidiophores; conspicuous, somewhat thickened and darkened, planate conidiogenous loci; and solitary or catenate conidia with thin to somewhat thickened, smooth to verruculose walls and somewhat thickened and darkened planate hila (Braun et al. 2013). *Zasmidium oleae*, a new species on *Olea tsoongii* collected in Hainan Province, China, is described, illustrated, and compared with other cercosporoid species on *Oleaceae*. The type specimen is deposited in the Herbarium Mycologium, Chinese Academy of Sciences, Beijing, China (HMAS).

Taxonomy

Zasmidium oleae Y.L. Guo, X.W. Xie & B.J. Li, **sp. nov.** Fig. 1

Fungal Name FN570159

Differs from *Passalora amurensis* by its shorter, smooth, 3-4-septate conidia.

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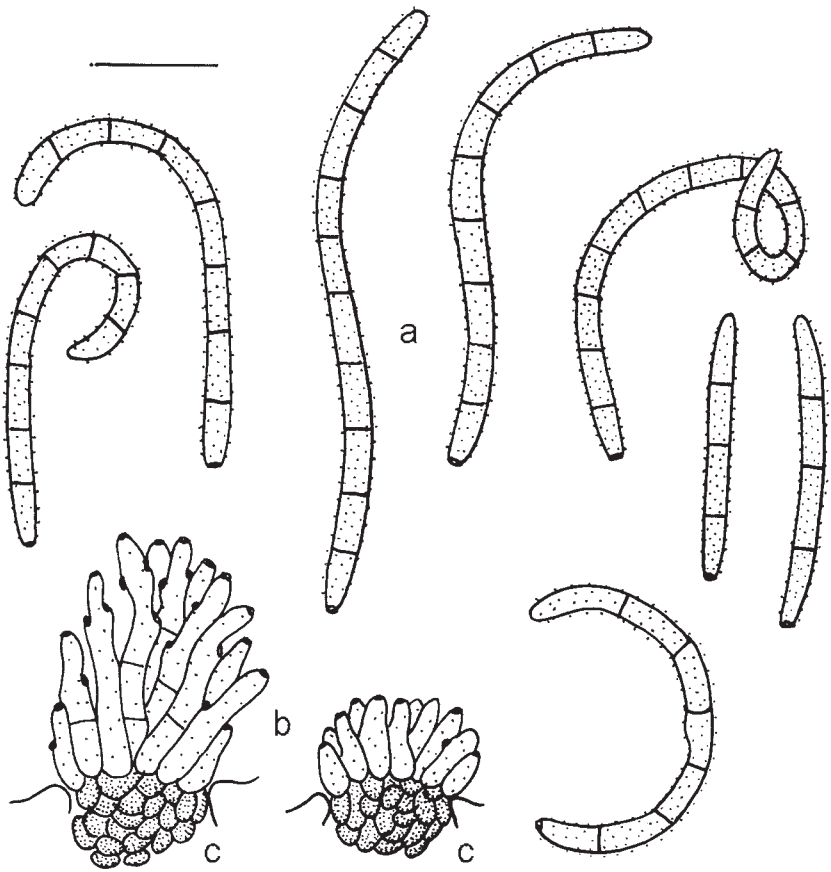

Fig. 1. *Zasmidium oleae* (HMAS 245707, holotype).
a. Conidia; b. Conidiophores; c. Stroma. Bar = 25 μm.

Type: China, Hainan Province, Wanning, on living leaves of *Olea tsoongii* (Merr.) P.S. Green (*Oleaceae*), 10 April 2011, coll. Guo Ying-lan 380 (**Holotype,** HMAS 245707).

Etymology: Derived from the host genus *Olea*.

Leaf spots amphigenous, circular to angular, 2–8 mm diam., often confluent, red-brown to dark brown with a yellow to pale olivaceous-brown halo on the upper surface, pale brown with yellow to pale olivaceous-brown halo on the lower surface. Caespituli mainly hypogenous. Mycelium internal. Stromata

substomatal, globose, pale brown to brown, 25–50 µm diam. Conidiophores densely fasciculate, pale olivaceous-brown to olivaceous-brown, uniform in color, irregular in width, straight to slightly curved, not branched, geniculate, thin-walled, smooth, conical to conically truncate at the apex, 0–2-septate, mostly aseptate, 6.7–20(–48) × 4–5.3 µm. Conidiogenous cells integrated, terminal or mostly reduced to conidiogenous cells, 6.7–20 µm long. Conidiogenous loci conspicuous, thickened, darkened, 1.3–2.5 µm wide. Conidia formed singly, cylindrical, brown, thick-walled, verruculose, straight to variously curved, rounded at the apex, rounded to short obconically truncate at the base, indistinctly 3- to multiseptate, 40–128 × 4.0–5.8 µm, hila thickened and darkened, 1.3–2.5 µm wide.

Discussion

Based on the description in Chupp (1954), *Cercospora lumbricoides* Turconi & Maffei on *Fraxinus* sp. (*Oleaceae*) is very similar to *Z. oleae* but differs by its brown, longer conidiophores (30–60 × 4–6 µm) and longer conidia (80–200 × 4–6 µm). However, the generic affinity of *C. lumbricoides* is quite unclear (the type material has not been traced and the species is known only from the original description) (Turconi & Maffei 1915).

Passalora amurensis (Ziling) H.D. Shin & U. Braun on *Syringa amurensis* Rupr. (*Oleaceae*), also morphologically similar to *Z. oleae,* differs in having pale olivaceous, 3–4-septate, shorter, and smooth conidia (35–70 × 4.0–5.5 µm; Shin & Braun 1996).

Although superficial verruculose mycelium, common in most *Zasmidium* species, is lacking on *Olea tsoongii*, assignment of the new species to *Zasmidium* is nevertheless justified. Several comparable species with distinctly verruculose conidia have recently been allocated to *Zasmidium* based on molecular data that support their affinities to this genus.

Acknowledgments

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